

N6

ple, the scheduling of air crews and planes. The traditional way of solving this type of problem is by linear programming. For many years now, the primary algorithm employed to solve this difficult problem has been the SIMPLEX algorithm, which was developed over 40 years ago by George B. Danzig in 1947. More recently, however, a new approach has been developed by Narendra K. Karmarkar and is known as Interior Point Methods. This class of algorithms perform better than the SIMPLEX algorithm on large-scale linear programming problems.

This book provides an excellent introduction to this subject and also reviews the SIMPLEX algorithm. It is divided into three parts. Part I "Preparations" develops the background to linear programming and prepares the reader for the introduction to interior point algorithms. There are 4 chapters to this section and they cover: (1) Introduction; (2) Modeling Linear Optimization Problems; (3) The Simplex Algorithm; and (4) A First Look at an Interior Point Algorithm. Part II "Algorithms" expands on the background work covered in Part I to develop the three interior point algorithms. The 4 chapters associated with this section are: (5) The Primal Algorithm; (6) The Dual Algorithm; (7) The Primal-Dual Algorithm; and (8) Implementation Issues. In the final section, Part III "Solutions" present two chapters which introduce the software package that accompanies the book. The software is suitable for running on an IBM-PC or other compatible computer. These two chapters present: (9) The Integrated Environment; and (10) Command-Line Operations. The algorithms employed in the software are fully developed in Part II. The book is an extremely readable account of the subject and provides an excellent starting point for people new to the subject area. The content level would make it accessible not only to graduates and advanced undergraduates but also people embarking upon a course of self-study.

D.R. Emerson

2 Conferences

CONFERENCE ON PARALLEL AND DISTRIBUTED COMPUTING

Date: 13–15 March, 1995.

Location: Kuwait University, Kuwait.

Sponsors:

Kuwait University, Kuwait Foundation for the Advancement of Science (KFAS).

Invited speakers:

Prof. D.J. Evans (Loughborough Univ. of Technology), Prof. U. Hofmann (Univ. of Salzburg), Prof. M. Raynal (IRISA), Prof. A. Sameh (Univ. of Minnesota).

Topics:

Theory, Techniques, Algorithms, Programming, Software, Hardware, Applications.

Other information:

There is no registration fee for the Conference. Those participants whose contributions are accepted for presentation at the Conference will be provided free local hospitality, including board and lodge.

Contact address:

Co-ordinator Conference on Parallel and Distributed Computing
Department of Mathematics, Kuwait Un.
P.O. Box 5969, Safat 13060, Kuwait
Tel.: (965) 481 1188/Extn. 5331
Fax: (965) 481 7201
e-mail: pdc95@mcc.sci.kuniv.edu.kw

14TH BENELUX MEETING ON SYSTEMS AND CONTROL

The aim of this meeting is to promote the research activities and the cooperation between researchers in Systems and Control in the Benelux. It is the fourteenth in a series of annual conferences that are held alternately in Belgium and the Netherlands.

Date: 29–31 March, 1995.

Location: Houthalen, Belgium.

Organizers:

the Dutch Research Community in the Mathematics of Operations Research and System Theory (MBST), the Dutch Foundation for Measurement and Control Technology (SMBT), and the Belgian Federation of Automatic Control (BIRA-IBRA).

Invited lectures:

- Subspace Algorithms in Systems Identification and Telecommunication Applications, by B. Ottersten (Royal Inst. Technology, Stockholm, Sweden).
- Adaptive Control, have we learned anything yet, by R.L. Kosut (Stanford Un., U.S.A.).

Other information:

Minicourses will be organized on Convex Optimization and Control, by S. Boyd (Stanford Un., U.S.A.) and Numerical Linear Algebra for Control, by P. Van Dooren (UCL, Belgium).

Conference language: English.

Contact address:

B. Motmans, K.U.Leuven
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B-3001 Leuven, Belgium
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Fax: (+32-) (0)16-32.19.86
e-mail: Bart.Motmans@esat.kuleuven.ac.be

APMOD95

APPLIED MATHEMATICAL PROGRAMMING AND
MODELLING

Date: 3-5 April, 1995.

Location: Brunel Un., U.K.

Sponsors:

Mathematical Programming Society, OR Society (GB), Institute of Mathematics and its Applications, The British Computer Society Association of European OR Societies EURO.

Topics:

- Large Scale Linear Programming - Sparse Simplex, Interior Point Methods, Algorithms, Computational testing, Algorithms for vector and parallel computers.

- Integer Programming - New developments in theory and algorithms, Computational results, Efficient reformulation of integer programs and logic forms, Special purpose algorithms and applications.
- Nonlinear Programming - Solution methods for large scale nonlinear programming, Methods of specifying nonlinear problems, Emerging input standards.
- Modelling Systems - Systems and languages for modelling optimisation problems, Structured modelling and model management.

Other information:

- There will be special sessions on Financial Applications (S. Zenios), Large Scale Nonlinear Programming (A. Ben-Tal), Large Scale Nonconvex Optimisation (J. Judice), Modelling and Model Management (J. Bisschop), Customised Algorithms for Large Scale LP (I. Maros), Integer Programming, Computational and Algorithmic Developments (L. Escudero), Interior Point Methods for Linear Programming (T. Terlaky), Scheduling Applications of Discrete and Combinatorial Programming (E. El-Darzi), Interaction of Discrete Programming and First Order Logic (G. Mitra), Stochastic Programming: Modelling and Solution of Industrial Problems (M. Dempster).
- Alongside the APMOD95 event there will be a parallel event ADT95 on Applied Decision Technologies. The topics here are Neural Nets, Genetic Algorithms, Bayesian Belief Models and Fuzzy Logic.

Contact address:

APMOD95, Dep. of Maths and Stats
Brunel University, Uxbridge
Middlesex, UB8 3PH, U.K.
Tel.: +44 1895 203275
Fax: +44 1895 203303
e-mail: apmod95@brunel.ac.uk

CONFERENCE ON
NUMERICAL METHODS FOR FLUID
DYNAMICS

Date: 3-6 April, 1995.

Location: University of Oxford, U.K.

Other information: CAM-Newsletter 10, nr. 3.

Contact address:

Mrs. B. Byrne, Oxford Un. Computing Lab.
Wolfson Building, Parks Road
Oxford OX1 3QD, UK
Tel: 0865 273883
e-mail: bette@comlab.ox.ac.uk

REAL NUMBERS AND COMPUTERS

Date: 4–6 April, 1995.

Location: Saint-Etienne, France.

Sponsors:

- Ecole des Mines de Saint-Etienne
- Centre National de la Recherche Scientifique
- Ministère de l'Enseignement Supérieur et de la Recherche
- Laboratoire de l'Informatique du Parallelisme, Ecole Normale Supérieure de Lyon.

Topics:

- Algorithms and architectures for *serial* and *on line* arithmetics.
- Relations between numbers theory, automata theory and computer arithmetic.
- Number systems.
- Floating point arithmetic.
- Calculability.
- Symbolic manipulation of numbers.
- Algorithms for *exact* computing.
- Multi-precision, interval arithmetic.
- Accuracy problems in various different fields (geometry, physics,...), and proposed solutions.

Other information:

A special issue of "Theoretical Computer Science" dealing with the same topic (Real Numbers and computers) will appear after the conference. Although separate submissions to the conference or the special issue are possible, we encourage people to submit a paper to the conference and then, after having their communication accepted, to submit an improved version to the special issue.

Conference languages: English/Français.

As a courtesy to non-French speaking attendees, we ask French speaking people to have at least either their talk or their transparencies in English.

Contact address:

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Ecole Normale Supérieure de Lyon
46 Allée d'Italie
69364 LYON Cédex 07, FRANCE
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Fax: +33 72 72 80 80
e-mail: Jean-Michel.Muller@lip.ens-lyon.fr

WORKSHOP ON
PARAMETER IDENTIFICATION AND
INVERSE PROBLEMS
IN HYDROLOGY, GEOLOGY AND
ECOLOGY

Date: 10-12 April, 1995.

Location: Karlsruhe, Germany.

Organizers:

J. Gottlieb (Karlsruhe), M. Hanke (Karlsruhe),
B. Hofmann (Chemnitz), U. Hornung (Munich),
W. Kinzelbach (Heidelberg), P. Knabner (Erlangen).

Other information:

The workshop is the second meeting of the working group Applied Mathematics in Geo- and Ecology (AMiGo). The aim of this workshop is bringing mathematicians and applicants together. The first part of the workshop is intended to present modern mathematical tools for nonlinear inverse problems in form of review contributions. The second part is devoted to applications and case studies.

Contact address:

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Institute of Soil Mechanics and Rock Mechanics
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THIRD INTERNATIONAL CONFERENCE ON
MATHEMATICAL AND NUMERICAL
ASPECTS OF WAVE PROPAGATION
PHENOMENA

Date: 24-28 April, 1995.

Location: Juan-les-Pins, France.

Other information: CAM-Newsletter 10, nr. 1.

Contact address:

Inria-Rocquencourt
Domaine de Voluceau - Rocquencourt - B.P. 105
78153 Le Chesnay Cedex - France
Tel.: +33(1) 39 63 56 00
Fax: +33(1) 39 63 56 38
e-mail: symposia@inria.fr

FOURTH CONFERENCE ON
NONLINEAR ANALYSIS, NUMERICAL
ANALYSIS AND
APPLIED MATHEMATICS

Date: 26-30 April, 1995.

Location: Constanza, Romania.

Other information: CAM-Newsletter 10, nr. 3.

Contact address:

Constantin Popa
OVIDIUS University Constanza
Department of Mathematics
124 Mamaia Blvd.
8700 - Constanza, ROMANIA
Tel: +40-41-614576 or +40-41-616194
Fax: +40-41-618372

FIRST IMACS INTERNATIONAL SYMPOSIUM ON
MATHEMATICAL MODELLING AND
SIMULATION
IN AGRICULTURE AND BIO-INDUSTRIES

Date: 9-12 May, 1995.

Location: Brussels, Belgium

Contact address:

M2SABI'95
Lab. d'Automatique
CP 165 - U.L.B.
av. F.D. Roosevelt 50
B-1050 Brussels, Belgium

7TH INTERNATIONAL CONFERENCE
CMEM 95
COMPUTATIONAL METHODS AND
EXPERIMENTAL MEASUREMENTS

Date: 16-18 May, 1995.

Location: Capri, Italy.

Other information: CAM-Newsletter 10, nr. 2.

Contact address:

Liz Johnstone
Wessex Institute of Technology
Ashurst Lodge, Ashurst
Southampton, S040 7AA, U.K.
Tel.: 44 (0) 703 293223
Fax: 44 (0) 703 292853
e-mail: CMI@ib.rl.ac.uk

EIGHT INTERNATIONAL CONFERENCE ON
DOMAIN DECOMPOSITION METHODS

Date: 16-20 May, 1995.

Location: Beijing, China.

Organizers:

Cui Junzhi (CAS), Gui Wenzhuang (CAS), Li Xi-aomei (Hunan), Hu Xiancheng (Tsinghua Univ.), Huang Hongci (Hong Kong), Shih Tsi-Min (Hong Kong), Shi Zhongci (CAS), Sun Jiachang (CAS), Zhou Tianxiao (CI. Xi'an).

Topics:

The conference will feature invited lectures, selected contributed papers, and poster presentations. Themes of the conference will range from basic theoretical research to industrial applications related to domain decomposition (DD) methods, including numerical analysis of DD methods, block and substructuring methods, multigrid and multilevel methods, fictitious domain methods, DD methods for high order and spectral methods, DD methods for nonlinear and time dependent problems, DD methods in computational fluid dynamics and structural mechanics, graph decomposition, general iterative and preconditioning methods, strategies and technologies of high performance computing, parallel implementations, and software developments.

Contact address:

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DDM8 conference secretary
State Key Lab of Sc. and Eng. Computing
The Computing Center, CAS, P.O. Box 2719
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Fax: (861)2542285
e-mail: ddm8@lsec.cc.ac.cn

CONFERENCE ON STABILITY THEORY

With this conference ETH wants to honor Adolf Hurwitz who was in Zürich from 1892 - 1919. In 1895 his paper "Über die Bedingungen unter welchen eine Gleichung nur Wurzeln mit negativen reellen Theilen besitzt" appeared in print. It represents a milestone in the development of the stability of dynamical systems. The stability still plays a key role in today's system theory. In the last few years there have been major new developments especially in robust stability and multidimensional systems.

Date: 21-26 May, 1995.

Location: Monte Verita, Ticino, Switzerland.

Organizers: Rolf Jeltsch, Mohamed Mansour.

Topics:

The aim of the conference is to show in a few lectures the historical development of the article by Hurwitz and its impact in other fields. The major emphasis however will be on modern development in stability theory and its application in theory of control and numerics. In particular stability of the following problems will be treated: linear, nonlinear, time-dependent systems, discretizations of ordinary and partial differential equations. In addition robust stability and problems related to the stability radius will be treated.

Invited Speakers:

B. Anderson (ANU Canberra), B. Barmish (Un. Wisconsin-Madison), R. W. Brockett (Harvard Un.), G. Collins (Un. Linz), D. Hinrichsen (Un. Bremen), E. Jury (Un. Miami), R. Jeltsch (ETH Zürich), T. Kailath (Un. Stanford), H. Kimura (Un. Osaka), V. Kharitonov (State Un. St. Petersburg), M. Mansour (ETH Zürich), R. Tempo (CENS-CNR Torino), P. Van Dooren (Un.

Louvain), M. Vidyasagar (Center for Art. Int. and Robotics Bangalore), G. Zames (McGill Un. Montreal).

Other information:

This conference will bring together about 60 people from the various fields related to stability. There will be about 20 invited 40-minute lectures in which outstanding experts will cover in survey lectures the history and the new developments of stability theory and its application especially in control theory and numerics. Other participants may present short 20-minute talks.

Since the number of participants is limited, participation is on invitation only. However, potential participants should not hesitate to contact one of the organizers, specifying their area of research and indicating whether they would like to give a talk, and if so, on which subject.

Contact address:

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Seminar für Angewandte Mathematik
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CH-8092 Zürich
Tel.: +41 1 632 3452
Fax: +41 1 632 1085
e-mail: jeltsch@sam.math.ethz.ch

9TH EUROPEAN SIMULATION
MULTICONFERENCE

Date: 5-7 June, 1995.

Location: Prague, Czech Republic.

Other information: CAM-Newsletter 10, nr. 3.

Contact address:

The Society for Computer Simulation Int.
European Simulation Office, c/o Philippe Geril
University of Ghent
Coupure Links 653 B-9000 Ghent, Belgium
Tel: +32.9.233.77.90
Fax: +32.9.223.49.41
e-mail: Philippe.Geril@rug.ac.be

ICCI95
INTERNATIONAL CONFERENCE ON
CONTROL AND INFORMATION

Date: 5–9 June, 1995.

Location: Shatin NT, Hong Kong.

Other information: CAM-Newsletter 10, nr. 3.

Contact address:

Dr. Wing-Shing Wong
ICCI95 Program Coordinator
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Shatin NT, Hong Kong
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Fax: +(852) 603-5032
e-mail: wswong@ie.cuhk.hk

SYMPOSIUM ON
INERTIAL MANIFOLDS,
APPROXIMATE INERTIAL MANIFOLDS
AND RELATED NUMERICAL
ALGORITHMS

Date: 6–10 June, 1995.

Location: Xi'an, China.

Other information: CAM-Newsletter 10, nr. 3.

Contact address:

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WORKSHOP ON
NONLINEAR OPTIMIZATION AND
APPLICATIONS

Date: 13–21 June, 1995.

Location: Erice, Sicily, Italy.

Sponsors:

Ettore Majorana Centre for Scientific Culture, International School of Mathematics "G. Stampacchia".

Topics:

The workshop aims to review and discuss recent advances and promising research trends in the field of Nonlinear Optimization, concerning theory, algorithms and innovative applications. Both the finite and the infinite dimensional cases will be of interest.

Invited lecturers:

Abadie J., Demyanov V., Evtushenko Y.G., Fukushima M., Grippo L., Judice J.J., Mangasarian O.L., More' J.J., Nocedal J., Pang J.S., Polak E., Qi L., Robinson S.M., Rockafellar R.T., Schnabel R., Spedicato E., Toint Ph.

Other information:

As usual, the course will be structured to include invited lectures and contributed lectures. Proceedings including the invited lectures and a selection of contributed lectures will be published. The total fee, which includes full board and lodging (arranged by the School), should be approximately US \$ 800. The closing date for application is 30 April 1995.

Contact address:

Prof. Gianni Di Pillo
Dipartimento di Informatica e Sistemistica
Universita' di Roma "La Sapienza"
via Buonarroti 12
00185 Roma, Italy
e-mail: erice@peano.dis.uniroma1.it

SECOND IMACS INTERNATIONAL SYMPOSIUM
ON
ITERATIVE METHODS IN LINEAR
ALGEBRA

Date: 18–24 June, 1995.

Location: Blagoevgrad, Bulgaria.

Other information: CAM-Newsletter 10, nr. 3.

Contact address:

Panayot S. Vassilevski
IMACS International Symposium
Center of Informatics and Computer Technology
Bulgarian Academy of Sciences
Acad. G. Bontchev street, block 25A
1113 Sofia, Bulgaria
e-mail: imacs95@bgearn.bitnet

AMCA - 95
INTERNATIONAL CONFERENCE ON
ADVANCED MATHEMATICS,
COMPUTATIONS AND APPLICATIONS

Date: 20-24 June, 1995.

Location: Academtown, Novosibirsk, Russia.

Other information: CAM-Newsletter 10, nr. 3.

Contact address:

Tanya Vishnevskaya
Computing Center SD RAS
6 Lavrentiev ave, Novosibirsk, 630090, Russia
Tel: (3832)-35-27-56
Fax: (3832)-32-42-59
e-mail: tanya@comcen.nsk.su

OFEA'95
OPTIMIZATION OF FINITE ELEMENT
APPROXIMATIONS

Date: 22-29 June, 1995.

Location: St.-Petersburg, Russia.

Organizers:

Yu. Demjanovich, V. Korneev.

Topics:

- error estimations, superconvergence and adaptivity
- fast solvers, preconditioning, hierarchical bases, multilevel techniques, domain decomposition methods
- p- and h-p-versions of finite element methods
- parallelization of finite element algorithms
- boundary element methods
- method of difference potentials
- approximations on the manifolds
- splines and wavelets
- finite element methods for complicated problems of mathematical physics
- applications of finite element methods.

Contact address:

Yuri Demjanovich
St.-Petersburg State University
Bibliotechnaya sq. 2
St.-Petersburg, 198904, Russia
Tel.: +7 (812) 428-73-19
Fax: +7 (812) 428-70-39
e-mail: ydemj@math.lgu.spb.su

IMACS-SAS'95 5TH. IMACS
INTERNATIONAL SYMPOSIUM ON SYSTEMS
ANALYSIS AND SIMULATION

Date: 26-30 June, 1995.

Location: Technical Un. Berlin, Germany.

Topics:

Computational and Mathematical Aspects of High Performance Scientific Computing (HPSC) and Parallel Applications; Analysis of Complex dynamic and Nonlinear Systems; Challenges and Applications in Industry, Natural Science, Economics, Medicine, Informatics, Engineering and Environment.

Other information:

All invited and accepted papers will be published in the conference proceedings. Additionally, selected and extended papers will be published in the IMACS journal MATHEMATICS AND COMPUTERS IN SIMULATION or in the journal SYSTEMS ANALYSIS MODELING SIMULATION.

Contact address:

GMD-FIRST
Secretariat SAS'95
Rudower Chaussee 5, Geb. 13.7
D-12489 Berlin, Germany
Tel.: 49 30 6392 1814
Fax: 49 30 6392 1805
e-mail: sas95@first.gmd.de

16TH BIENNIAL CONFERENCE ON
NUMERICAL ANALYSIS

Date: 27-30 June, 1995.

Location: University of Dundee, Scotland, U.K.

Other information: CAM-Newsletter 10, nr. 3.

Contact address:

Dr. D.F. Griffiths
Biennial Conference on Numerical Analysis
Dept. of Mathematics and Computer Science
The University
Dundee, DD1 4HN
Scotland, UK
Tel: +44 (382) 344467
Fax: +44 (382) 201604
e-mail: na.griffiths@na-net.ornl.gov

ICIAM'95
THE THIRD INTERNATIONAL CONGRESS ON
INDUSTRIAL AND APPLIED
MATHEMATICS

Date: 3-7 July, 1995.

Location: Hamburg, Germany.

Other information: CAM-Newsletter 10, nr.1.

Contact address:

GAMM-Office
Univ. Regensburg, NWF I - Mathematik
D-93053 Regensburg, Germany
Tel.: +49-941-943-4918
Fax: +49-941-943-4005

MANNA 1995
INTERNATIONAL CONFERENCE ON
MATHEMATICS OF NEURAL
NETWORKS AND APPLICATIONS

Applications of neural networks (NNs) have often been carried out with a limited understanding of the underlying mathematics but it is now essential that fuller account should be taken of the many topics that contribute to NNs: approximation theory, control theory, genetic algorithms, dynamical systems, numerical analysis, optimisation, statistical decision theory, statistical mechanics, computability and information theory, etc. .

We aim to consider the links between these topics and the insights they offer, and identify mathematical tools and techniques for analysing and developing NN theories, algorithms and applications.

Date: 3-7 July, 1995.

Location: Lady Margaret Hall, Oxford, U.K.

Organizers:

S.W. Ellacott (Brighton) and J.C. Mason (Huddersfield).

Sponsors:

Un. of Huddersfield and Brighton, the London Mathematical Society.

Invited speakers:

N.M. Allinson (York Un., U.K.), S. Grossberg (Boston, U.S.A.), S.-i Amari (Tokyo), M. Hirsch

(Berkeley, U.S.A.), N. Biggs (LSE, London), T. Poggio (MIT, U.S.A.), G. Cybenko (Dartmouth, U.S.A.), H. Ritter (Bielefeld, Germany), J.G. Taylor (King's College, London), P.C. Parks (Oxford).

Other information:

It is anticipated that up to 40 contributed papers will be presented. The proceedings will be published, probably as a volume of an international journal, and contributed papers will be considered for inclusion. The deadline for submission of abstracts is 17 February 1995.

Accommodation will be available at Lady Margaret Hall (LMH) where many rooms have ensuite facilities. The conference will start with Monday lunch and end with Friday lunch, and there will be a full-board charge (including conference dinner) of about 235 pounds for this period as well as a conference fee of 195 pounds. We expect to be able to offer a reduction in fee to those who give submitted papers, and a very low fee to a number of recommended bona-fide students who book early.

There will be a supporting social programme, including reception, outing(s) and conference dinner, and family accommodation may be arranged in local guest houses.

Contact address:

Mrs R. Hawkins, School of Comp. and Maths
University of Huddersfield
Queensgate, Huddersfield HD1 3DH, U.K.
Tel.: 44+(0)484 472150
e-mail: R.Hawkins@hud.ac.uk

INTERNATIONAL IMACS-GAMM SYMPOSIUM
ON
NUMERICAL METHODS AND
ERROR-BOUNDS

Date: 9-12 July, 1995.

Location: Un. Oldenburg, Germany.

Organizers:

G. Alefeld (Karlsruhe) and J. Herzberger (Oldenburg).

Sponsors:

- International Association for Mathematics and Computers in Simulation (IMACS)

- Gesellschaft für Angewandte Mathematik und Mechanik (GAMM)
- Institut für Angewandte Mathematik der Universität Karlsruhe, Germany
- Fachbereich Mathematik der Universität Oldenburg, Germany.

Topics:

- Error-Bounds for Numerical Algorithms
- Computer Arithmetic
- Two-Sided Methods
- Interval Arithmetic Algorithms
- Self-Validating Numerical Methods
- Computer Algebraic Methods in Interval Arithmetic
- Automatic Differentiation with Error-Bounds.

Other information:

- This symposium is thought to be a satellite conference to the ICIAM-World Congress in Hamburg and provides a forum for researchers and appliers in the field of numerical algorithms with emphasis on the above mentioned symposium themes. There will be invited lectures as well as short communications (20 min.).
- Potential contributors should submit abstracts (one page DIN A4) to the local organizer of the symposium (Prof. J. Herzberger) not later than March 1, 1995.
- It is planned to publish selected papers of the symposium after a refereeing process in a proper form.
- The symposium will be held at the Universität Oldenburg (Wechloy Campus) in the city of Oldenburg. Oldenburg is located about 150 km south-west of Hamburg. It has a main railway station and moderately priced hotel accommodations in the city. There is a public bus directly to the campus.

Contact address:

Prof. Dr. J. Herzberger
 Fachbereich Mathematik
 Universität Oldenburg 26111 Oldenburg
 Germany

CONFERENCE ON LINEAR ALGEBRA AND ITS APPLICATIONS

Date: 10–12 July, 1995.

Location: The University of Manchester, England.

Other information: CAM-Newsletter 10, nr. 2.

Contact address:

Miss Pamela Irving, The Conference Officer
 The Inst. of Mathematics and Its Applications
 Catherine Richards House
 16 Nelson Street
 Southend-on-Sea, Essex, SS1 1EF, UK
 Tel.: 0702 354020
 Fax: 0702 354111

SANUM '95 SOUTH AFRICAN SYMPOSIUM ON NUMERICAL MATHEMATICS

Date: 10–12 July, 1995.

Location: Cutty Sark Hotel, Scottburgh, South Africa.

Organizers:

South African Soc. for Numerical Mathematics
 and Dept. of Computer Science of the Un. of
 Natal, Durban.

Other information:

Research papers on any aspect of numerical analysis or computational mathematics are welcomed. This Symposium, now into its 21st year, traditionally also accommodates talks on applications of mathematics.

The Cutty Sark is a moderately priced seafront hotel about 30km south of Durban. The month of July is a very pleasant one in this subtropical region, with the daytime temperature around 20 degrees Centigrade.

Contact address:

Dr. Lucas Venter
 Department of Mathematics
 Potchefstroom University for Christian Higher
 Education
 2520 Potchefstroom
 South Africa
 e-mail: wsklmv@puknet.puk.ac.za

INTERNATIONAL RESEARCH INSTITUTE ON NONLINEAR WAVES

The conference will provide a high standard forum for mathematicians, physicists, and engineers to present their latest progress in mathematical analysis for the partial differential equations closely related to nonlinear phenomena of waves arising from classical field theory, continuum mechanics, geometry, general relativity, plasma physics, optics, etc.

Date: 10–21 July, 1995.

Location: Sapporo, Japan.

Organizers:

R. Agemi (Hokkaido Un.), Y. Giga (Hokkaido Un.), J. Ginibre (CNRS, Paris-Sud), S. Klainerman (Princeton Un.), H. Okamoto (RIMS, Kyoto Un.), T. Ozawa (Hokkaido Un.).

Sponsor: Mathematical Society of Japan.

Topics:

Nonlinear wave equations of hyperbolic type, nonlinear wave equations of dispersive type; equations related to nonlinear waves in fluids and plasmas; related elliptic problems; Cauchy problem, mixed problem, regularity, formation of singularities, scattering, stability of solitary waves, periodic solutions, asymptotic analysis, variational methods, numerical analysis, inverse spectral transform, etc.

Invited speakers:

C.M. Dafermos (Brown), J. Ginibre (Orsay), N. Hayashi (Gunma), S. Klainerman (Princeton), Li Tatsien (Fudan), T. Miyakawa (Kyushu), P.I. Naumkin (Moscow), T. Nishida (Kyoto), W.A. Strauss (Brown), M. Struwe (ETH), M. Tsutsumi (Waseda), Y. Tsutsumi (Tokyo).

Other information:

- There will be several series of expository courses.
- Abstracts are due to March 31, 1995.

Contact address:

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MODELLING AND OPTIMIZATION OF DISTRIBUTED PARAMETER SYSTEMS WITH APPLICATIONS TO ENGINEERING

Date: 17–21 July, 1995.

Location: Warsaw, Poland.

Other information: CAM-Newsletter 10, nr. 3.

Contact address:

Dr. Malgorzata Peszynska
IFIP Conference
Systems Research Institute
Polish Academy of Sciences
Newelska 6, PL-01-447 Warsaw
POLAND
Tel: (4822) 364414, 370521
Fax: (4822) 372772
e-mail: ifip@ibspan.waw.pl

CONFERENCE ON OPTIMIZATION

Date: 17–19 July, 1995.

Location: Braga, Portugal.

Topics:

The main aim of the meeting is to gather experienced researchers on Optimization and to invite them to describe their latest results, experiences or applications in a friendly atmosphere, for an audience with an expected large number of students.

Invited speakers:

D. Shanno, J. Dennis, R. Horst, L. Wolsey, T. Magnanti, K. Murty.

Other information:

The deadline for extended abstract submission is March 30, 1995.

Contact address:

Conference on Optimization '95
Departamento de Producao e Sistemas
Escola de Engenharia
Universidade do Minho
4700 Braga, Portugal
Tel.: + 351-53-604455
Fax: + 351-53-604456
e-mail: copt95@ci.uminho.pt

THIRD INTERNATIONAL CONFERENCE ON COMPUTER METHODS IN WATER RESOURCES

This Conference aims at bringing together engineers and scientists with a common interest in applying computational methods for the solution of practical problems related to surface and sub-surface fluid flow.

Date: 2-4 August, 1995.

Location: Beirut, Lebanon.

Topics: Conceptual, physical and mathematical modeling, numerical techniques, engineering applications, and software development, related to:

- Ground Water Flow Models
- Shallow Water Models
- Pollution Transport and Dispersion
- Flow in Rivers and Channels
- Wave Propagation
- Coastal Engineering Models
- Estuarine Problems
- Reservoir Modelling - Sedimentation
- Multiphase Flow - Hydrological Studies
- Flow in Fractured Porous Media
- Porosity Modelling
- GIS Applications and Surveying Techniques
- Uncertainty Modelling
- Saltwater Intrusion Problems
- Water Management
- Mathematical and Physical Modelling
- Experimental and Laboratory Work
- Water Resources Management.

Contact address:

Prof. Y. Abousleiman
School of Petroleum and Geological Eng.
Energy Center, University of Oklahoma
Norman, OK 73019, U.S.A.
Tel.: +1 405 325 2901 Ext 146
Fax: +1 405 325 7511
e-mail: yabousle@mailhost.ecn.uoknor.edu

INTERNATIONAL CONFERENCE ON NUMERICAL APPROXIMATION AND APPLICATIONS

Date: 14-18 August, 1995.

Location: Dalian, P.R. China.

Organizer: Ren-Hong Wang.

Sponsors:

DUT (Dalian University of Technology)
SECC (State Education Commission of China)
IMACS (International Association of Mathematics and Computers in Simulation)
LNAST (Liaoning Association of Science and Technology).

Topics:

- Linear and Non-Linear Approximation
- Harmonic Analysis (including Wavelets)
- Numerical Integration
- Orthogonal Polynomials
- Approximation of Curves and Surfaces
- Application of Approximation in Differential and Integral Equations
- Spline Functions and their Applications
- Fractals
- Asymptotic Analysis.

Other information:

- Two copies of an extended abstract (1-2 pages) of proposed papers should be submitted as soon as possible but no later than 15 February, 1995. Authors will be notified of acceptance before 30th March, 1995. Final acceptance of papers for the camera ready conference proceedings will be based upon rapid review of the final full papers which must be received before 1st October, 1995.
- The Conference Proceedings in camera ready form will be available on the first day of the conference. After extended review by the Conference Editorial Board, a selection of papers will probably be published after the conference in the international journal of IMACS.
- IBM compatible PC's will be available.
- The conference registration fees, paid before 1st May 1995, are \$ 350 for delegates. They include the Camera Ready Conference Proceedings, morning coffee, lunch, afternoon tea and dinner for all of five days of the conference. A

Welcome Reception on the evening of 13rd August, the conference Banquet on the evening of the 18th August, and a short tour are also included. Accommodation is not included.

Contact address:

Prof. Ren-Hong Wang
Institute of Mathematical Sciences
Dalian University of Technology
Dalian 116024, P.R. China
Tel.: 86-411-4709359
Fax: 86-411-4671009
e-mail: Chenggd@bepc2.ihep.ac.cn

SIXTH INTERNATIONAL COLLOQUIUM ON
DIFFERENTIAL EQUATIONS

Date: 18-23 August, 1995.

Location: Plovdiv, Bulgaria.

Other information: CAM-Newsletter 10, nr. 3.

Contact address:

Stoyan Zlatev
Mathematical Faculty of the Plovdiv Un.
Tsar Assen Str. 24
Plovdiv 4000
Bulgaria

SECOND INTERNATIONAL CONFERENCE ON
THEORETICAL AND COMPUTATIONAL
ACOUSTICS

Date: 21-25 August, 1995.

Location: Waikiki Beach, Hawaii.

Other information: CAM-Newsletter 10, nr. 2.

Contact address:

Dr. Ding Lee (Code 3122)
Naval Undersea Warfare Center
Detachment New London
New London, CT 06320, U.S.A.
Tel.: 203-440-4438
Fax: 203-440-6228

ICTAM'96

19TH INTERNATIONAL CONGRESS OF
THEORETICAL AND APPLIED
MECHANICS

Date: 25-31 August, 1996.

Location: Kyoto, Japan.

Sponsors:

International Union of Theoretical and Applied Mechanics (IUTAM), the Japan National Committee of Theoretical and Applied Mechanics, the Science Council of Japan.

Other information:

The scientific program of the Congress will consist of General (Opening and Closing) Lectures, Invited Sectional Lectures, six Mini-symposia on special topics, and Contributed Papers presented in Lecture Sessions or in Seminar Presentation Sessions.

- Opening Lecturer: T. Kobori (Japan)
- Closing Lecturer : Sir James Lighthill (UK)
- Sectional Lecturers:
G.D. Cheng (P.R. China), D. Crighton (UK), M.J. Crochet (Belgium), P. Huerre (France), D. Krajcinovic (USA), P.F. Linden (UK), G. Milton (USA), R. Narasimha (India), S. Nemat-Nasser (USA), M.P. Païoussis (Canada), H. Petryk (Poland), F. Pfeiffer (Germany), A. Pouquet (France), B.A. Schrefler (Italy), P. Wright (USA).

Six topics have been selected for special emphasis in Mini-symposia. Titles and co-chairmen are:

- Vorticity dynamics and turbulence, R.M. Kerr (USA) and S. Kida (Japan)
- Non-Newtonian fluid flow, K. Walters (UK) and R.A. Brown (USA)
- Aero- and hydroacoustics, J.E. Ffowcs-Williams (UK) and A. Prosperetti (USA)
- Mechanics of heterogeneous and composite solids, G.A. Maugin (France) and V. Tamuzs (Latvia)
- Solid mechanics in manufacturing, D.B. Bogy (USA) and T. Inoue (Japan)
- Structural optimization, M.P. Bendsoe (Denmark) and R.T. Haftka (USA).

Contact address:

Prof. Eiichi Watanabe
Secretary General, ICTAM 1996
Department of Civil Engineering
Kyoto University
Sakyo-ku, Kyoto 606-01, JAPAN
Tel.: +81-75-753-5079
Fax: +81-75-752-5296
e-mail: ictam@strsun1.kuciv.kyoto-u.ac.jp

ECCTD 95
EUROPEAN CONFERENCE ON
CIRCUIT THEORY AND DESIGN

Date: 27-31 August, 1995.

Location: Istanbul, Turkey.

Other information: CAM-Newsletter 10, nr. 3.

Contact address:

ITU-ETA Vakfi
P.K. 34, Ataturk Havalimani
34831, Istanbul, Turkey
Tel: (90-212) 246 60 47 ext. 12
Fax: (90-212) 240 13 49

IMACS EUROPEAN SIMULATION MEETING ON
SIMULATION TOOLS AND
APPLICATIONS

Date: 28-30 August, 1995.

Location: Győr, Hungary.

Other information: CAM-Newsletter 10, nr. 3.

Contact address:

IMACS European Simulation Meeting
c/o Prof. Dr. A. Jávör
Scientific Soc. of Measurement and Automation
H-1372 Budapest, P.O. Box 451, Hungary
Fax: +36 1 1531406
e-mail: h7024vig@ella.hu

XVIII CNMAC- CONFERENCE ON
COMPUTATIONAL AND APPLIED
MATHEMATICS

Date: 28 August- 1 September, 1995.

Location: Un. of Parana at Curitiba, Brazil.

Organizer:

The Brazilian Society of Computational and Applied Mathematics (SBMAC).

Other information:

This conference brings together every year about 700 participants amongst researchers and students. The aim of the conference is to present and discuss the new scientific and technological developments in related areas of Computational and Applied Mathematics.

The conference will consist of invited lectures from brazilians and foreigners researchers together with contributed papers, undergraduate mini-courses and workshops. Persons wishing to contribute a paper for consideration at the conference should send a copy of an extended resume, with identification of the author(s), and 2 copies of complete work (or Technical Report in case the work has not been published yet), without identification of the author(s), to the address given below, no later than April 15, 1995.

Contact address:

SECRETARIA EXECUTIVA DA SBMAC - RJ
Rua Lauro Muller, 455, Botafogo
CEP 22290-160, Rio de Janeiro, RJ, BRASIL
Tel.: (021) 541.21.32 XT: 116
e-mail: sbmac@brlncc.bitnet

EUROSIM SIMULATION CONGRESS

Date: 11-15 September, 1995.

Location: Vienna, Austria.

Other information: CAM-Newsletter 10, nr. 3

Contact address:

EUROSIM'95, Computing Services / E020
Tech. Un. of Vienna, Wiedner Haupstr. 8-10
A-1040 Vienna, Austria
Tel: +43-1-58801-5386 or -5374 or -5484
Fax: +43-1-5874211
e-mail: eurosim95@email.tuwien.ac.at

INTERNATIONAL EUROCONFERENCE
ADVANCED MATHEMATICAL TOOLS IN
METROLOGY

Date: 27-30 September, 1995.

Location: Lady Margaret Hall, Oxford, UK.

Organizers:

CNR - Istituto di Metrologia "E. Colonnetti",
Torino, Italy
National Physical Laboratory, Teddington, UK.

Other information:

- The conference is the first in a Euroconferences Series on the theme. Its aims are to present and promote recent and current applications of mathematical modelling and analysis, statistics, numerical methods and software to metrology-measurement science. Emphasis will be placed on the benefits that mathematical tools can bring to problems facing researchers and practitioners of metrology. Tutorial sessions in key areas of mathematics will support the applications talks. Metrologists will benefit from formal and informal opportunities to discuss problems. Mathematicians will gain from obtaining an increased awareness of a range of metrological disciplines and identifying common areas for mathematical application. Important themes will be realistic statistical uncertainty estimation and quality management systems.
- Support for a number of young European researchers is available.
- There are opportunities for a limited number of unsolicited papers. Abstracts of at most 300 words should be submitted to the address below no later than 28 February 1995 by e-mail, fax, or conventional mail. Latex source is encouraged. Indicate your full name, organization, address, telephone and fax numbers and e-mail address.
- It is intended that the proceedings will be published.

Contact address:

Prof. Maurice G. Cox
Div. of Information Techn. and Computing
National Physical Laboratory
Teddington, Middlesex TW11 0LW, U.K.
Tel.: +44 (0)181 943 7002
Fax: +44 (0)181 977 7091
e-mail: mgc@ditc.npl.co.uk

INTERNATIONAL CONFERENCE ON
PARALLEL ALGORITHMS

Date: 15-19 October, 1995.

Location: Wuhan Un., Wuhan, China.

Organizers:

Wuhan University, Wuhan, China and Changsha
College of Technology, Changsha, China.

Sponsors:

Natural Science Foundation of China, National
Defence Research Council of Science and Technology of China, and State Education Committee of China.

Topics:

- High performance parallel computer systems and their performance evaluation
- Theory and implementation of parallel and distributed computing
- Parallel algorithms based on domain decomposition methods and multigrid methods
- Design and analysis of numerical and non-numerical parallel algorithms
- Theory of cellular automation models and their applications
- Lattice gas and lattice Boltzmann
- Evolutionary algorithms and parallel problem solvers from nature
- Software tools and environments for parallel computers
- Systolic algorithms and parallel implementation
- Software engineering aspects relating to parallel computing
- Industrial, scientific and commercial applications for pipelined, vector, array, parallel and distributed computers
- Other aspects and applications relating to massively parallel computations.

Contact address:

Prof. Lishan Kang, ICPA'95
Inst. of Software Engineering
Wuhan University, Wuhan 430072
P.R. China
Tel.: +86-27-7822712 ext 2438
Fax: +86-27-7812661

ICPAM95

INTERNATIONAL CONFERENCE ON PURE AND APPLIED MATHEMATICS

Date: 19-22 November, 1995.

Location: University of Bahrain, Bahrain.

Other information: CAM-Newsletter 10, nr. 3.

Contact address:

Prof. A.Q.M. Khaliq
Conference Secretary-ICPAM95
Dep. of Mathematics, Un. of Bahrain
P.O. Box 32038, Isa Town, Bahrain
Tel: (+973) 688348
Fax: (+973) 682582
e-mail: ICPAM95@isa.cc.uob.bh

MAFELAP 1996

NINTH CONFERENCE ON THE MATHEMATICS OF FINITE ELEMENTS AND APPLICATIONS

Date: 25-28 June, 1996.

Location: Brunel Un., Uxbridge, Middlesex, U.K.

Topic:

- The mathematical theory of finite elements
- Engineering and scientific applications of finite elements
- Computational techniques for finite element methods
- Techniques for large-scale finite element analyses, including parallel and vector processing
- Theory, implementation and applications of related methods: finite volume methods, boundary elements, discrete elements.

Other information:

The ninth in the series of conferences on the Mathematics of Finite Elements and Applications will be held at Brunel University, in June 1996. The aim is to bring together again workers from different disciplines whose common interest is finite element methods, and to promote wider awareness throughout the finite element community of the latest developments in the field. The four-day programme will consist of invited lectures, contributed papers, mini-symposia on specific areas, lectures in parallel sessions, and poster sessions.

Contact address:

The Secretary, MAFELAP 1996, BICOM
The Brunel Inst. of Computational Maths
Brunel University
Uxbridge UB8 3PH, U.K.
Tel.: (+44) 1895 274000 ext. 2470
Fax: (+44) 1895 203303
e-mail: mafelap@brunel.ac.uk

CONFERENCE ON NUMERICAL MATHEMATICS (CELEBRATING THE 60TH BIRTHDAY OF M.J.D. POWELL)

Date: 27-30 July, 1996.

Location: University of Cambridge, England.

Organizers:

Ian Barrodale (Victoria, B.C.), Martin Buhmann (ETH Zurich), Wolfgang Dahmen (RWTH Aachen), Roger Fletcher (Un. of Dundee), Arieh Iserles (Un. of Cambridge), Will Light (Un. of Leicester), Bill Morton (Un. of Oxford), Mike Todd (Cornell Un.) and Philippe Toint (Un. of Namur).

Sponsor: The London Mathematical Society.

Invited speakers:

Ian Barrodale (Victoria, B.C.), Carl de Boor (Un. of Wisconsin), Roger Fletcher (Un. of Dundee), Gene Golub (Stanford Un.), Charles Micchelli (IBM Yorktown Heights), Jorge More (Argonne Nat. Lab.), Beresford Parlett (Un. of California), Mike Powell (Un. of Cambridge), Mike Todd (Cornell Un.), Philippe Toint (Un. of Namur).

Other information:

The University of Cambridge, where Mike Powell has been for the last eighteen years the John Humphrey Plummer Professor of Applied Numerical Analysis, is a suitable setting for this event. The participants will be accommodated at historic Magdalene College, in the city centre of Cambridge.

Apart from the ten invited, longer lectures that focus on optimization and approximation theory, submitted papers, addressing themselves to original and timely research, are welcome in all fields of numerical mathematics. We would now like to call for papers to be presented at this conference.

All such papers will be considered for inclusion into a proceedings. They can be submitted to either Martin Buhmann or Arieh Iserles, by e-mail or otherwise. Every submission should contain the title of the talk and an abstract. The duration of submitted talks will be 25 minutes.

Contact address:

A. Iserles
Dept. of Appl. Maths and Theor. Physics
Silver Street
Cambridge CB3 9EW, U.K.
e-mail: ai@amtp.cam.ac.uk

ECCOMAS 96
SECOND ECCOMAS CONFERENCE ON
NUMERICAL METHODS IN
ENGINEERING
THIRD ECCOMAS CONFERENCE ON
COMPUTATIONAL FLUID DYNAMICS

Date: 9–13 September, 1996.

Location: Paris, France.

Organizers:

- GAMNI/SMIAI: Groupement pour l'Avancement des Méthodes Numériques de l'Ingénieur
- CNRS: Centre National de la Recherche Scientifique
- INRIA: Institut National de Recherche en Informatique et Automatique.

Topics:

- Mathematical Modelling
- Adaptive Approximation Techniques
- Numerical and Intelligent Algorithms
- Parallel Computing
- Software Environment
- Multidisciplinary Optimization
- Inverse Problems
- Active Control

- Nonlinear Dynamics
- Solid and Structural Mechanics
- Material Science
- Computational Fluid Mechanics
- Turbulence and Combustion
- High Speed Flows
- Computational and Electromagnetics
- Environment and Geosciences
- Industrial Applications.

Other information:

The main objective of these joined conferences is to provide a common forum for presentation and discussion of the state of the art of Scientific Computing applied to Engineering Sciences, both in and outside Europe. Equal emphasis is to be given to basic methodologies, scientific developments and industrial applications. The major areas to be considered include among others fluid dynamics, structural mechanics, or electromagnetics. Multidisciplinary applications of these fields to critical problems encountered in sectors like for example aerospace, car industry, energy or environment will be particularly developed. The conference will include general lectures and contributed papers that will be selected by the Scientific Committee and published in the Conference Proceedings. Finally, Special Technological Sessions (S.T.S.) and Exhibits will be organized demonstrating the cooperation between Research and Industry.

Contact address:

ECCOMAS 96
Université de Paris VI
Laboratoire d'Analyse Numérique
Tour 55-65, cinquième étage
4, Place Jussieu
75252 Paris Cedex 05, France
Tel.: (33) 1 44 27 44 11
Fax: (33) 1 44 27 72 00
e-mail: eccomas96@ann.jussieu.fr

NEWSLETTER ON COMPUTATIONAL AND APPLIED MATHEMATICS

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